Network for Irish Educational Standards

Paper 11

Continuing Grade Inflation 2009-2013 in the Institute of Technology Sector in Ireland

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May 2016

Executive Summary

This paper updates the findings of O'Grady and Guilfoyle (2007) and O'Grady (2011). They showed a pattern between 1994 and 2008 of continuous increase in the top two grades in each of the NQA level 6, 7 and 8 undergraduate qualifications across the Institute of Technology sector (not including Dublin Institute of Technology, for which the relevant figures were not previously collected). The latest research for 2009-2013, described here, shows the pattern to have continued at all three levels. To assess the extent of grade increase over that period, while minimising the impact of random year to year fluctuations, the averages of the figures for 2007 and 2008 are used as baselines against which the averages for 2012 and 2013 are compared. On the basis of this comparison, in the 13 Institutes of Technology combined, at level 6 (Higher Certificate), there was a 20.8% increase in the Distinction grade and a 22.2% increase in Merits 1. At level 7 (Ordinary Degree), there were increases of 18.7% and 7.3% in Distinctions and Merits 1 respectively, while at level 8 (Honours Degree), First Class awards went up by 13.5% and Upper Seconds by 4.6%. The percentages express the increase between 2009 and 2013 as a proportion of the previous two year baseline. The level of grade increase on an annual basis was found to have accelerated at level 6 and 7 but slowed down at level 8 over the 2009-2013 period, as compared with 1994-2008.

While grades have been increasing since 1994, there has also been a major shift in graduates from level 6 to level 8 in the sector but no significant change in the proportion of level 7 graduates. This upward academic shift, in the absence of a major improvement in the ability of entrants should logically have been accompanied by a decline in the rate of better grades. The evidence from an analysis over time of the CAO points on which students enter the Institutes of Technology shows that the constant increase in higher grades has not been accompanied by any substantial increase in the typical entrance points of successive cohorts. Moreover, due to grade inflation in the Leaving Certificate since the early 1990s, the average CAO applicant's points' score has risen by about 100. This means that in relative terms, entry points for Institute of Technology courses have been in decline all along.

The possibility that the grade increase identified might be associated with an increase in students entering the sector outside the CAO system was explored. The two major groups of relevance are part-time and mature students. The proportion of the student body accounted for by part-time students in the Institutes of Technology since 1993-94 has varied between 18% and 24% and shown no pattern of increase or decrease with time. This eliminates the possibility that part-time students might account for the grade increase since the early 1990s. The vast majority of part-time students have always been mature which eliminates any potential effect of mature students through that route. While the proportion of full-time students who are in the mature category more than doubled in the Institutes of Technology from 9% in 2000/01 to 20% in 2010/11, there are several reasons to discount that as a significant contribution to grade increase. Firstly, the proportion of mature students is insufficient to account for the level of grade increase there has been. Secondly, analysis by the Higher Education Authority suggests that, just as for school leavers, performance in third level education

for mature students is strongly predicted by prior educational achievement as measured by CAO points. The majority of mature students enter third level through the CAO system and CAO points have not been improving. Thirdly, while no comparison within the Institutes of Technology of the grades at graduation of mature and non-mature students could be located, evidence from the university sector in Ireland and from the tertiary sectors in the US and the UK indicates that mature students do not as a group perform better than their younger counterparts. Like part-time students, mature students must be discounted as a possible contribution to the extensive grade increase in the Institutes of Technology.

Evidence was identified that Institute size is an influential variable with smaller Institutes showing greater grade increase. It is concluded that grade increase is due to grade inflation following on from an ongoing reduction in academic standards which follow from the necessity to recruit and maintain less academically suited students in an environment where the Institutes of Technology are all in competition with each other and with the Universities for the inevitably limited supply of academic talent available.

For the first time, grade percentage figures for the DIT were collected. While there are no earlier baseline figures with which to compare them, the average of the 2012-2013 figures being broadly in line with the rest of the IOT sector suggests that grade inflation has also pervaded the DIT. A comparison of CAO entry points of undergraduate entrants with graduate grade percentages indicates that higher academic standards than the average within the sector are being maintained in the DIT.

An analysis for this paper of the percentage of Firsts and Upper seconds across the seven Irish universities between 2009 and 2014, revealed that grade inflation has levelled off in that sector. The level of First Class degree awards in the Institutes of Technology has exceeded that of the combined universities. This is a remarkable finding given that, based on 2014 figures, the typical entrant to the universities has 462 CAO points in comparison to only 341 held by the typical entrant to the Institutes of Technology (DIT not included). This can only mean that entirely different educational standards are applied in the two sectors, a conclusion which chimes closely with the findings of a 2012 OECD analysis of literacy and numeracy in Irish graduates. The OECD study found that roughly a third of Ireland's degree graduates have a standard of numeracy and roughly a quarter a standard of literacy that puts them into the lower half of the general population internationally. In terms of its percentage of graduates aged 20-34 with a literacy level classed as 3 or above, Ireland ranks 17th out of 23 OECD counties and 20th out of 23 for the percentage of graduates aged 20-34 with numeracy level of 3 or above. Such standards of numeracy and literacy are not commensurate with holding a degree and can only mean that a large proportion of degrees are awarded for academic performance which falls far short of what a degree might reasonably be expected to represent. Given the low CAO points of typical entrants to the IOTs and the extraordinary high rate of Firsts, it is inevitable that the biggest problem lies within that sector.

A projection of the more recent annual grade increase trends across the 13 IOTs (excluding DIT) found that, unless the process is arrested, a half of all recipients of awards will receive the top grade available by the years 2027, 2057 and 2069 at levels 6, 7 and 8 respectively. It is evident that grade inflation is ultimately an unsustainable process. Under the current financial regime, where Institutes of Technology are funded on the basis of the number of students they can recruit and maintain, there is no motivation to maintain academic standards when to do so would be financially self-punishing. Only if the funding model is changed or if the control of academic standards is taken away from the Institutes of Technology will there be any possibility of an end to grade inflation and its concomitant erosion of academic standards.

The level of grade inflation which is continuing and even accelerating in the Institute of Technology sector and the concomitant erosion of educational standards, as evident in the OECD findings, will inevitably undermine the international status of Irish graduates. It is recommended that a suitably equipped body, preferably from overseas, be commissioned to investigate the decline in educational standards in the IOT sector. Plans for extending university status within the sector should be shelved and instead a root and branch analysis conducted as to how the Institutes of Technology can better service the post-secondary educational needs of both school leavers and adults in Ireland.

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List of Figures and Tables

1. Previous Research

O'Grady and Guilfoyle (2007)[1] reported increases between 1994 and 2004 in the rate of all higher grades in National Qualifications Authority (NQA) level 6, 7 and 8[2] awards throughout the Institute of Technology sector in Ireland. A follow up study (O'Grady, 2011) found that this grade increase had continued in 2005-2008 with the exception of Distinctions at Level 7. The present analysis updates the position for 2009-2013.

In the previous two studies, the practice was adopted of estimating grade increase by comparing the average rates for the two or three most recent years in the period with the averages for a similar baseline period. This was designed to minimise the effect of random year to year fluctuations. Thus, O'Grady and Guilfoyle (2007) compared the average of the 2002/03/04 rates with that for 1994/95/96 whereas O'Grady (2011) compared the average of the 2007/2008 rates with that for 2003/2004. This approach is continued in the present study. The averages of 2012 and 2013 are compared with the averages of 2007 and 2008, focusing, as before, on the top two grades in each qualification.

Table 1: Grade Increase 1994-2004

	%1994/95/96*	%2002/03/04	Change	Change %**
Level 8 (Hons. Deg.)				
First Class	9.9	15.1	5.2	+51.9
Upper Second	29.5	31.3	1.8	+6.1
Level 7 (Nat. Dip.)				
Distinction	13.4	18.9	+5.5	+41.5
Merit 1	24.0	24.6	+0.6	+2.6
Level 6 (Higher Cert.)				
Distinction	13.5	18.5	+5.0	+37.7
Merit 1	18.8	18.9	0.1	+0.59

* The baseline period for the Merit 1 comparison is 1998/99/00 as the Merit grade was only divided into Merit 1 and Merit 2 from 1998.

** 'Change%' is change expressed as a percentage of the baseline figure and, due to rounding to one decimal place of the figures in the table and not for the calculation, the figure may seem slightly inaccurate in this and in Tables 2 and 3 below.

Table 1 above and table 2 below detail the extent of grade increase reported for the 1994-2004 period (O'Grady and Guilfoyle, 2007) and for the 2005-2008 period (O'Grady, 2011).

[1] In the present comparison of 2012/13 figures with those for 2007/08 , in O'Grady and Guilfoyle(2007) and in O'Grady (2011), data for 13 IOTs are included – the figures for DIT were not previously collected; DIT figures were obtained for 2009-2013 and are reported on separately below.

[2] Levels 6,7 and 8 correspond to undergraduate Higher Certificate, Ordinary Degree (previously National Diploma) and Honours Degree awards respectively.

Table 2: Grade Increase 2005-2008

	%2003/04	%2007/08	Change	Change %
Level 8 (Hons. Deg.)				
First Class	14.1	16.3	+2.2	+15.7
Upper Second	30.6	36.0	+5.4	+17.5
Level 7 (Nat. Dip.)				
Distinction	19.3	17.1	-2.2	-11.1
Merit 1	23.8	28.8	+5.0	+21.0
Level 6 (Higher Cert.)				
Distinction	18.6	19.9	+1.3	+7.1
Merit 1	18.1	21.7	+3.6	+20.1

As evident in the tables above the pattern is one of continuous grade increase in the top two grades across all three qualification levels with the sole exception of the Distinction grade at level 7 between 2005 and 2008.

2. The Present Study: Aggregate Grade Increase between 2009 and 2013

This paper reports on a follow-on analysis of the figures for 2009 to 2013. After the format of the earlier analyses, data on the number of individual awards made at NQA levels 6, 7 and 8, together with the proportions given each grade, were obtained from each of 13 Institutes of Technology.

Table 3: Grade Increase 2009-2013

	%2007/08	%2012/13	Change	Change %
Level 8 (Hons. Deg.)				
First Class	16.3	18.5	+2.2	+13.5
Upper Second	36.0	37.6	+1.6	+4.6
Level 7 (Ord. Deg.)				
Distinction	17.1	20.3	+3.2	+18.7
Merit 1	28.8	30.9	+2.1	+7.3
Level 6 (Higher Cert)				
Distinction	19.9	24.1	+4.2	+20.8
Merit 1	21.7	26.5	+4.8	+22.2

For this round of grade analysis, similar data was obtained from Dublin Institute of Technology (DIT) but because no baseline figures were previously obtained for it, the DIT figures are not included in the following grade increase calculations. The figures for the other 13 Institutes of Technology (IOTs) are

aggregated to establish the rate of grade increase between the average of the 2012/13 figures and those of a baseline set at 2007/08 as detailed in Table 3 above.

The aggregate national rate of all higher grades (top two grades in each case) has increased at all three levels, including the Distinction grade at level 7 where a decline of over 11% was found between 2007/08 and 2003/04. As evident in Table 3 above, the more recent increase more than offsets this decline, re-establishing an overall consistent pattern of grade increase for the previous two decades.

3. Grade Change 2009-2013: Individual Institute Patterns

The pattern within individual Institutes was quite variable. At Level 8, four Institutes (Waterford, Dun Laoghaire, Carlow and Limerick) showed a decline between 2007/08 and 2012/13 in the rate of Firsts and Upper Seconds combined. The declines ranged from 2.7% to 8.9%. The other nine Institutes demonstrated increases which ranged from 1.1% (Blanchardstown) to 51.2% (Tralee). In addition to Tralee, four other Institutes had increases in excess of 20%. They were Tallaght (34.5%), Letterkenny (32.9%), Athlone (26.5%) and Dundalk (22.8%).

At Level 7, only one Institute (Dun Laoghaire) evidenced a decline (1%) in the top two grades (Distinction and Merit 1) combined. The other 12 Institutes showed increases which ranged from 3.7% (Limerick) to 41.6% (Letterkenny). In addition to Letterkenny, Athlone (22.1%) was the only other Institute with an increase in excess of 20%. Increases of over 10% were also recorded at Carlow (18%), Tralee (17%), Tallaght (16.4%) and Sligo (12.9%).

At level 6, all 13 Institutes showed an increase in the rate of combined Distinction and Merit 1 grades. The increases ranged from 5.8% (Waterford) to 49.9% (Tallaght). In addition to Tallaght, Blanchardstown (45.2%), Dundalk (43.5%), Sligo (23%) and Athlone (22.5%) evidenced increases of over 20%.

4. Longer Term Pattern of Grade Increase

Table 4 below summarises the increases in the rate of the top two grades at Level 8 between 1994/95, the first two years for which data were collected for this series of studies, and 2012/13, the most recent years for which the figures were obtained. The table also details the increases in the rate of the top two grades at levels 6 and 7 between 1998/99, when the current grading system (splitting the Merit grade into upper and lower) was introduced, and 20012/13. Apart from the large scale of grade increase and the fact that it characterises each of the two grades in each of the three levels, a striking feature of the data is

that at all three levels, the rate of grade increase has been substantially greater for the top than for the second grade . The rate of increase in Firsts at level 8 is over three times that of Upper Seconds. At level 7, the increase in Distinctions is over twice that of Merit 1 awards and, at level 6, the increase in Distinctions is over once and a half that of Merit 1 awards.

Guilfoyle (2011) argues that a change in the distribution of grades of this nature, with proportionately more increase at the upper end, is precisely what one would expect if the academic demands of courses were being reduced through a shift downwards in Bloom's hierarchical taxonomy. He explains the outcome as follows:

> *"….given a mixed ability cohort of students, those who have already attained a higher level in the taxonomy would be advantaged more by the downward shift in standards. That is, those with higher abilities would be better positioned to take advantage of the shift down the hierarchy. Conversely, weaker students would not be in a position to take advantage of the downward shift as much as the more capable students. Such non-linear phenomena are familiar in a variety of competition models - the fitter are better able to take advantage of changing opportunities. Thus, in the presence of declining standards, we expect to see a proportionally greater effect higher up the hierarchy and its image under the grade mapping." (*Guilfoyle, 2011,p.7)

Table 4: Longer Term Grade Increase

	%1994/1995	**%2012/2013**	**Change**	**Change %**
Level 8 (Hons. Deg.)				
First Class	8.7	18.5	9.8	112.0
Upper Second	27.6	37.6	10.0	36.4
Level 7 (Ord. Deg.)	**%1998/1999**	**%2012/2013**	**Change**	**Change %**
Distinction	12.9	20.3	7.4	57.3
Merit 1	24.3	30.9	6.6	27.3
Level 6(Higher Cert.)	**%1998/1999**	**%2012/2013**	**Change**	**Change %**
Distinction	14.2	24.1	9.8	68.9
Merit 1	18.6	26.5	7.9	42.5

Guilfoyle (2011) reports that a similar pattern of proportionately greater grade increase at the upper end of the spectrum has characterised the Leaving Certificate Examination and undergraduate degrees in the university sector, in both of which long term trends of grade increase have also occurred.

Figures 1 and 2 below graph the change in Firsts and Upper Seconds since 1994. It is especially notable in light of Guilfoyle (2011) how much greater proportionately the increase in Firsts (a 2.3 fold increase from 1994 to 2013) has been by comparison with Upper Seconds (a 1.4 fold increase from 1994 to 2013).

Figure 1: Percent First Class 1994-2013 (Combined Institutes- not inc. DIT)

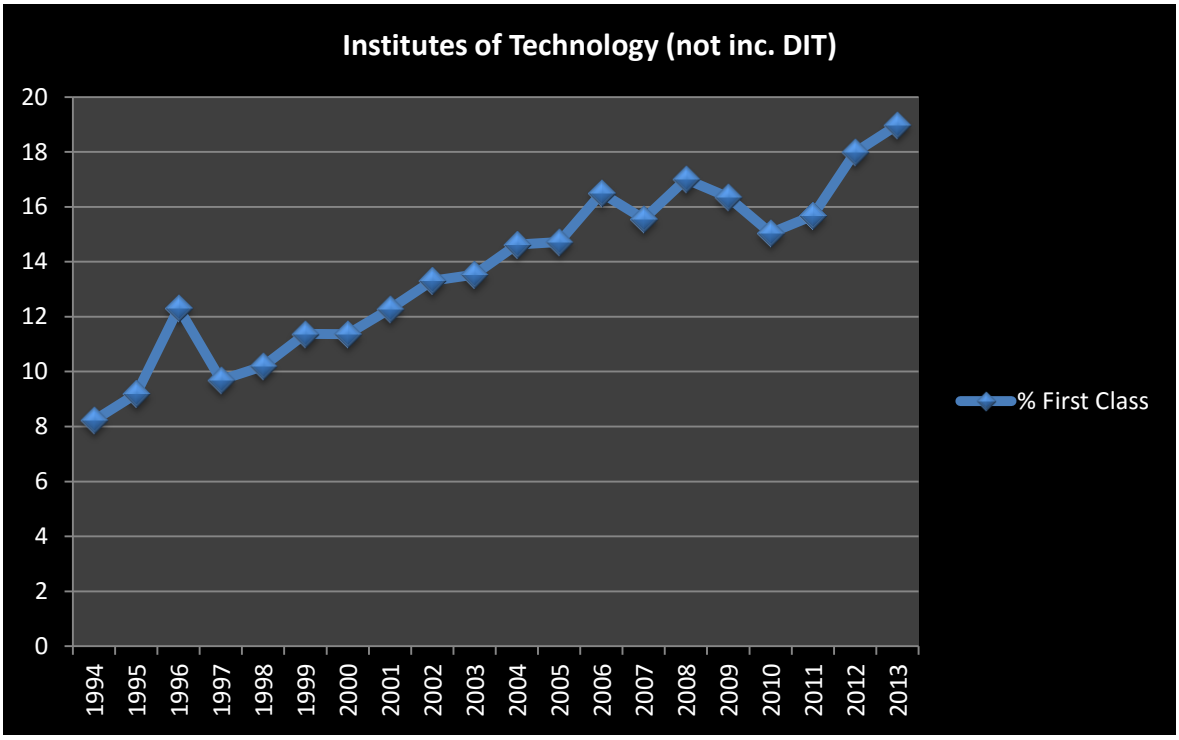
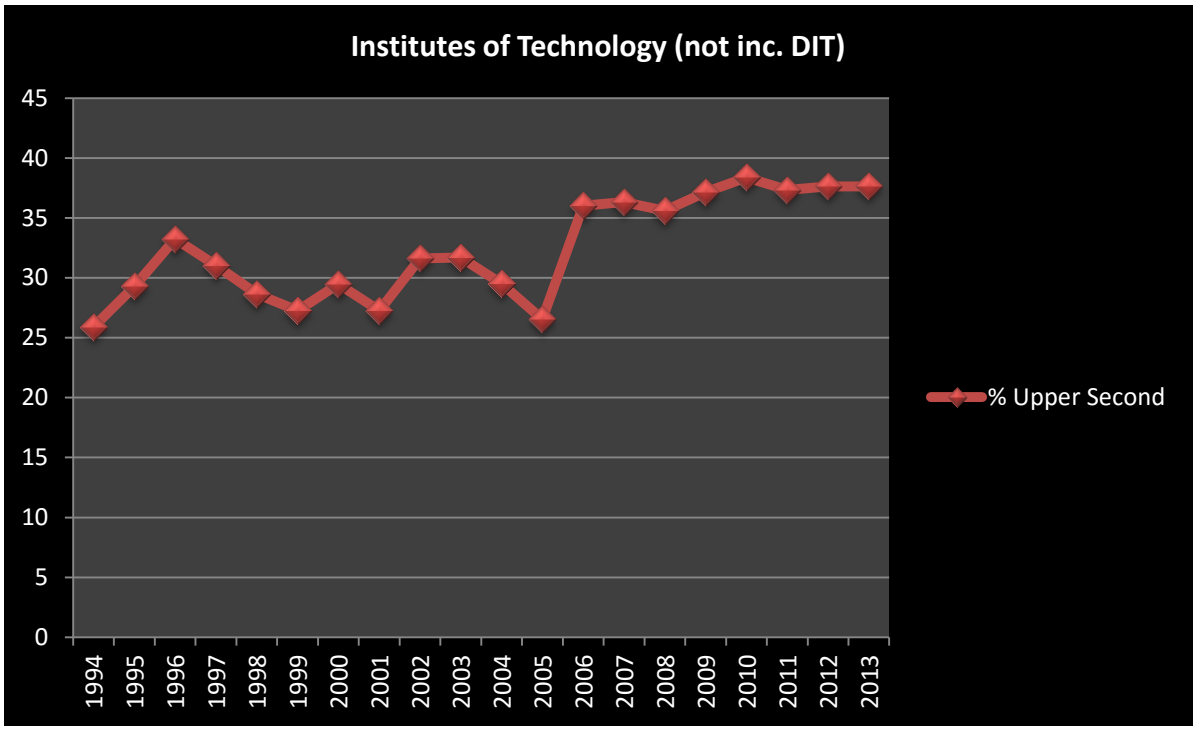


Figure 2: Percent Upper Second 1994-2013 (Combined Institutes- not inc. DIT)



5. Is the Rate of Grade Increase Accelerating or Slowing Down?

Table 5 below compares the annual rate of grade increase in the top two grades at level 8 for the period of this analysis with the previous period commencing in 1994 when grade data was first collected by the Network for Irish Educational Standards. As the basis of the current analysis is a comparison between a base rate set at the average of the figures for 2007 and 2008 with the average of those for 2012 and 2013, the period of this analysis is regarded as from 2007-2013, a total of 7 years. The previous period then (1994-2006) consists of a total of 13 years. The annual percentage change for each grade is the total percentage change divided by the number of years in the period. It involves the apportioning of the overall change over the period evenly to each year in the period; it is not the actual rate of change each year which would differ every year.

Table 5: Level 8 - Comparison of Grade Increase 2007-2013 with 1994-2006

Level 8 (Hons. Deg.)	%1994/1995	%2005/2006	Change	Change %	Annual Change %*
First Class	8.7	15.6	6.9	79.1	6.1
Upper Second	27.6	31.3	3.7	13.4	1.0
Level 8 (Hons. Deg.)	**%2007/2008**	**%2012/2013**	**Change**	**Change %**	**Annual Change %****
First Class	16.3	18.5	2.2	13.5	1.9
Upper Second	36.0	37.6	1.7	4.6	0.7

*1994/1995-2005/06 = 13 years **2007/2008-2012/13 =7 years

While, as detailed above, grade increase has been continuing at level 8, it is evident from Table 5 that it has slowed down considerably in recent years, especially for Firsts, where an annual increase of 6.1% between 1994/95 and 2005/06 has dropped back to an annual increase of 1.9% for the later period. The slowdown in the rate of increase for Upper Seconds is much less but the rate of increase in that grade had been more modest all along.

Table 6 below compares the rate of increase in the top two grades at level 7 for the more recent period (2007/08 to 2011/12) with a prior period beginning in 1998. That was when the current grading system was introduced involving a split of the previously undifferentiated Merit grade into a Merit 1 and a Merit 2. In contrast to level 8, the annual rate of grade increase has sped up at level 7 with the annual rate of increase for Distinctions, which ran at 2.1% between 1998/99 and 2005/06, jumping to 2.7% between 2007/08 and 2012/13. The rate of increase in the Merit 1 grade also accelerated from 0.6% per annum to 1.0%.

Table 6: Level 7- Comparison of Grade Increase 2007-2013 with 1998-2006

Level 7 (Ord. Deg.)	%1998/1999	%2005/2006	Change	Change %	Annual Change %*
Distinction	12.9	15.3	2.4	18.7	2.1
Merit 1	24.3	25.5	1.3	5.2	0.6
Level 7 (Ord. Deg.)	**%2007/2008**	**%2012/2013**	**Change**	**Change %**	**Annual Change %****
Distinction	17.1	20.3	3.2	18.7	2.7
Merit 1	28.8	30.9	2.1	7.3	1.0

*1998/1999 – 2005/2006 = 9 years **2007/2008 – 2012/2013 = 7 years

A comparison of the annual rate of grade increase at level 6 for the same periods as level 7, as detailed in Table7 below, reveals a similar but more extreme pattern. Here, the rate of grade increase shows much greater acceleration, with the annual increase in Distinctions doubling from 1.5% to 3.0% and the annual increase in the Merit 1 grade going from 0.7% to 3.2%, a 4.5 fold acceleration.

Table 7: Level 6 - Comparison of Grade Increase 2007-2013 with 1998-2006

Level 6 (Nat. Cert.)	%1998/1999	%2005/2006	Change	Change %	Annual Change %*
Distinction	14.2	16.1	1.9	13.2	1.5
Merit 1	18.6	19.8	1.2	6.4	0.7
Level 6 (Nat. Cert.)	**%2007/2008**	**%2012/2013**	**Change**	**Change %**	**Annual Change %****
Distinction	19.9	24.1	4.1	20.8	3.0
Merit 1	21.7	26.5	4.8	22.2	3.2

*1998/1999 – 2005/2006 = 9 years **2007/2008 – 2012/2013 = 7 years

The general trend is that grade increase while slowing down substantially at level 8, specifically for the First Class grade, has been speeding up for the top two grades at both levels 6 and 7 in the more recent period.

6. Institute Differences on Change in Rate of Firsts at Level 8

The variance in grade change between Institutes at level 8, described above, is of interest in the context of the slowing of aggregate grade increase for that level. While the overall annual rate of increase in Firsts for the 2007-2013 period was 1.9%, individual Institutes differed greatly on this figure with five: Carlow (-5.5), Sligo (-1.4), Cork(-0.7), Tralee(-0.4) and Waterford (-0.3) showing annual declines. Four Institutes evidenced increases relatively close to the average. They were Blanchardstown (1.9), Limerick (2.0), GMIT (2.1) and Dun

Laoghaire (2.8). Letterkenny (4.6) had a substantially greater annual rate of increase while Tallaght (15.2), Dundalk (12.8) and Athlone (12.5) had annual increases of a very much larger order.

What could explain a seven year period in which, to take the most extreme contrast, the rate of First Class awards increased by 15.2% per annum at Tallaght but decreased by 5.5% per annum at Carlow? The most obvious explanation would be that Carlow has experienced a sharp decline in the quality of students in their level 8 courses over the period, whereas Tallaght has, in contrast, experienced a marked improvement in the academic calibre of its level 8 students. If that is the explanation, then similar contrasts should characterise the students at all the Institutes that have seen a decline in firsts as compared with those where there has been considerable increases.

It is possible to put this hypothesis to the test. The majority of students admitted to the IOTs are admitted through the CAO system. While there is a significant body of graduates in the IOT sector who do not enter through this route, the high proportion doing so allows for the use of CAO points as an indicator (albeit imperfect) of academic ability among students. From the available data it is not possible to estimate what exact proportion of level 8 graduates from the IOTs enter using CAO points but it is possible to show that a very significant majority do so.

Those who will not have entered through the CAO points system are for the most part made up of three groups: part-time students; students from overseas and Irish full-time mature students who did not enter using CAO points. In the academic year 2012/13, in the combined 13 Institutes of Technology (DIT not included) there were 27,255 students enrolled on Level 8 courses, of which 2,002 (7.3%) were part-time students (HEA, 2016a). For the same academic year, the HEA reports that 1,814 of a total of 62,376 full-time undergraduates in the IOT sector were from outside the island of Ireland (HEA, 2016b). This amounts to only 2.9% of the total. Mature students (aged 23 and up on Jan 1 of the year of commencement) made up 17% of full-time new entrants in 2009, the year most of the 2013 level 8 graduates started their courses (Carroll and Patterson, 2011, p9). This was up from 10.7% in 2004 and 9% in 2000 (figures supplied directly to author by Department of Education and Skills). A large proportion of mature entrants, however, use the CAO points system to enter their courses. In 2009, 16.9% of all applicants to the CAO were mature students (Patterson and Harvey, 2013, p.13). While it is not possible to infer from this figure what proportion are applying for IOT courses or how many mature students are successful through this route, an overall figure of nearly 17% indicates that a high proportion of mature students must enter through the CAO route.

Based on the above figures, it may be concluded that, of all 2013 graduates from the IOTs, approximately 10% were made up of part-time and overseas students. An additional 20% were mature but it would seem that the majority of those entered through the CAO system. Overall then, it seems likely that in the order of 85% of graduates entered through the CAO system. An analysis of any significant changes over time in the points on which students enter IOT courses should offer insight into whether the great variation in the rate of firsts among different IOTs can be explained by variance in the academic ability of students from one Institute to the next.

The points scores on which individual students entered their courses were not available but a close proxy for those figures was available for the years 2002 and 2014 allowing for a comparison between Institutes with respect to change over time in the CAO points' profiles of their student intakes. The proxy arises from the availability for both of those years of the median points' score for each level 6, 7 and 8 course in the IOTs together with the number of places on each course. The 2002 figures were obtained from the CAO website – the only year for which it included the number of places on courses and the 2014 data were drawn from a combination of the CAO website (median points) and the Irish Times (2015) which published the number of places on each Higher Education undergraduate course based on figures it obtained through the Freedom of Information Act.

For 2002 and 2014, for each Institute separately, the median points score for each level 6, 7 and 8 course was multiplied by the number of places on that course. The resulting figures were then summed and divided by the total number of places for all courses. This acts as a single-figure indicator for each year of the academic calibre of students entering an Institute. Table 8 below compares the mean of the weighted median points for those Institutes which showed a reduction in the rate of Firsts at level 8 over the 2007-2013 period with those showing the greatest increases. The increases and reductions in points are shown as is the ratio of full-time to part-time level 8 students registered at those Institutes in the academic year 2012-2013. The latter ratio is included to identify any major change in part-time students, students who will not have entered through the CAO system.

A scrutiny of Table 8 fails to reveal any pattern of points' change or of a change in the proportion of part-time students which distinguishes the two groups of Institutes from each other. All 7 Institutes evidenced an increase in points as might be expected from the general increase in Leaving Certificate grades which has characterised the period. In 2002, for example, 39.8% of CAO applicants had 350+ points. By 2014, that figure had risen to 48.6% (CAO Website, 2016). If the improvement in LC grades is a function of grade inflation,

as it is likely to be, then the improvement in CAO points may be illusory in so far as improved academic ability is concerned (see O'Grady, 2009). Even if some or all of the increase in points between 2002 and 2014 does imply more academically capable students are entering some IOTs, the improvement does not correspond with the increase in the rate of Firsts. Carlow, with the largest increase in points, has the largest decrease in Firsts. Tralee, with the second largest increase in points, shows a decline in Firsts. Tallaght, with a considerably smaller increase in points than either Carlow or Tralee, experienced the largest increase in Firsts of all the Institutes. Dundalk and Athlone both show a smaller increase in Firsts than Carlow or Tralee. Points change offers no help in explaining the rise and fall of Firsts across the IOTs.

Table 8: Comparison of Institutes showing reduction with those showing highest increase in % firsts at level 8 for period 2007-2013.

	Per Annum % Change in Firsts	Mean of Weighted Medians 2002	Mean of Weighted Medians 2014	Change in Points	Ratio of FT to PT Lev 8 students 2012-13
Decline in Firsts					
Carlow	-5.5	279	349	+70	2.6
Sligo	-1.4	315	325	+10	22.1
Cork	-0.7	380	381	+1	8.2
Tralee	-0.4	289	345	+56	47.8
Larger Increase in Firsts					
Tallaght	+15.2	297	315	+18	12.9
Dundalk	+12.8	288	337	+49	149.3
Athlone	+12.5	289	338	+49	9.4

If a change in the CAO points' mix of students cannot account for the upward and downward shifts in First Class awards, is it possible that the explanation may lie in changes to the mix of full-time and part-time honours degree students. In the absence of any evidence on whether part-time students tend to get better or worse grades than their full-time equivalents, and there does not appear to be any research published on this issue, it can only be hypothesised that a change in the mix of part-time to full-time students may be accompanied by a change in either direction of the rate of Firsts awarded.

Tables 9 and 10 below list the ratio of full-time to part-time level 8 students enrolled at the relevant Institutes in the academic years 2007/08 and 2012/13. Since the ratio figures indicate the number of full-time students enrolled for every one part-time student, smaller figures indicate proportionately more part-

time students. Between 2007/08 and 2012/13, among the Institutes showing a decline in Firsts, the proportion of PT level 8 students remained relatively constant in Carlow and Cork but declined very considerably in Sligo and a great deal more in Tralee. Among the three Institutes where there were large increases in the rate of Firsts, Athlone evidenced an increase in the proportion of PT students at level 8 while Tallaght and Dundalk showed declines, a major decline in the case of Dundalk.

Table 9: Institutes showing decline and major increase in Firsts at level 8 – ratio of full-time to part-time enrolment on level 8 courses in 2007/08

	Per Annum % Change in Firsts 2007-2013	PT Level 8 Enrolment 2007/08	FT Level 8 Enrolment 2007/08	Ratio of FT:PT 2007/08
Decline in Firsts				
Carlow	-5.5	559	1112	2.0
Sligo	-1.4	147	1166	7.9
Cork	-0.7	326	1751	5.4
Tralee	-0.4	112	871	7.8
Larger Increase in Firsts				
Tallaght	+15.2	153	581	3.8
Dundalk	+12.8	97	1557	16.1
Athlone	+12.5	77	1238	16.1

Source: HEA, 2016 (4).

Table 10: Institutes showing decline and major increase in Firsts at Level 8 – ratio of full-time to part-time enrolment on level 8 courses in 2012/13

	Per Annum % Change in Firsts 2007-2013	PT Level 8 Enrolment 2012/13	FT Level 8 Enrolment 2012/13	Ratio of FT:PT 2012-13
Decline in Firsts				
Carlow	-5.5	811	2115	2.6
Sligo	-1.4	66	1458	22.1
Cork	-0.7	412	3370	8.2
Tralee	-0.4	21	1004	47.8
Larger Increase in Firsts				
Tallaght	+15.2	126	1635	12.9
Dundalk	+12.8	13	1941	149.3
Athlone	+12.5	154	1452	9.4

Source: HEA, 2016 (4).

There is nothing in these figures which hints at the mix of part-time and full-time students offering an explanation for the difference between the two groups of Institutes in the change of their rates of Firsts. Carlow, with the greatest consistency in the proportion of part-time to full-time students, experienced the largest decline in firsts. Tralee, with a decline, albeit relatively

minor, in Firsts, showed a very substantial drop in the proportion of part-time students, while Dundalk which showed a major increase in Firsts, also showed a very large drop in the proportion of part-time students. Tallaght and Athlone, both with large increases in Firsts showed contrary movements in the proportion of part-timers. A change in part-time/full-time student mix does not predict change in award of Firsts.

7. Change in Proportions of Graduates at Level 6, 7 and 8

Based on the comprehensive figures collected for 13 IOTs (DIT not included) for this series of studies, since 1994 there has been a major change across the IOT sector in the balance of graduates at Level 6 (Higher Certificate), Level 7 (Ordinary Degree) and Level 8 (Honours Degree). In 1994, the predominant qualification was Level 6, accounting for 53.5% of all undergraduate graduates across the 13 IOTs. This proportion gradually dropped, year on year, to only 13% in 2013. By then the predominant qualification was Level 8 which accounted for 47.2% of all undergraduate awards, up from 9.8% in 1994. The rise in Level 8 awards closely mirrored the decline at Level 6. The proportion of the total accounted for by Level 7 has remained remarkably constant over that period. In 1994, 36.6% of all undergraduate awards were at level 7 as compared with 39.8% in 2013. In the intervening period the percentages have varied up and down somewhat, rising to over 40% in 1996 but dropping back to 34.9% in 2001, since when it has remained between 37% and 42%.

The marked shift between Level 6 and Level 8 awards has represented a considerable move 'up-market' in qualification terms in the IOTs. Higher level qualifications bring (or should bring) with them higher academic demands. It is to be expected that a Level 8 qualification will be much more demanding than a Level 6 which, after all, is the basis of such NQA level designations. With proportionately so many more students doing Level 8 qualifications, it would be expected that, unless the average ability of the overall student body entering IOTs went up very considerably over the same period, average performance at Level 8 would inevitably show a marked decline, manifest in a lower proportion of First and Upper second grades. Indeed, the decline should be evident at level 6 and level 7 as well, as the stronger students move from the lower (where they would have been the better performers) to higher level courses (where they would be less able to get such high grades).

The figures show a strikingly opposite picture to that which one might logically expect. As proportionately more and more students across the 13 IOTs obtained level 8 qualifications (47.2% in 2013 compared with 9.8% in 1994), the proportion of such graduates getting Firsts and Upper Seconds increased

dramatically. In 1994, 8.2% of those obtaining an honours degree obtained a First Class award. By 2013, the proportion had climbed steadily to 19%. At the same time, the proportion of Upper Seconds had also climbed from 25.9% to 37.6%. The steady upward drift of students from Level 6 to Level 8 failed also to have the expected restraining effect on better grades at Level 6 where the rate of Distinctions went from 13.7% in 1994 to 23.1% in 2013 and the rate of Merit 1 awards from 17.5% in 1998 to 26.8% in 2013.

If qualification standards had remained constant over the period, the shift from level 6 to level 8 qualifications coupled with the remarkably improvement in grade profiles at Level 6 and 8 could only realistically be explained by a very major improvement in the average ability of students entering the IOTs. If this occurred it should be immediately evident in the typical CAO points with which students enter the IOT sector. In recent years average points at entry should be very considerably higher than in earlier years. Has such a positive transformation occurred?

8. Change in CAO Entry Points (2002-2014)

The most comprehensive comparison which can be conducted on published CAO points is between 2002 and 2014. For those two specific years, as explained in Section 6 above, not only is it possible to identify the median points on which students entered each course across the 13 IOTs but it is also possible to identify the number of places on each specific course allowing for the calculation of the mean of course median points weighted for intake. This was calculated for individual Institutes as detailed in Table 8 above. It was also calculated for all courses across the 13 IOTs together. There are some courses for which students enter on non-standard points (points being awarded for alternative or additional accomplishments such as art portfolios or interviews). Such courses are not included in the calculations of the weighted median points but, as the total proportion of students involved across the 13 IOTs is relatively small, this should not have a major impact.

For 2002, the mean of the weighted median points for all Level 6, 7 and 8 entrants was 324. A typical student, therefore, entering the IOT sector was carrying in the region of 324 CAO points. In 2014 this figure had risen to 341. The typical student in 2014 had 17 more CAO points. This increase has to be viewed in light of the increase in LC grades and consequent CAO points which has occurred across the board in the same period. In 2014, for example, 48.6% of CAO applicants had 350+ points as compared with 39.8% in 2002.

From the figures for 2002 and 2014 provided by the CAO on its website, it is possible to estimate the increase in the median points for all CAO applicants. In 2002 a cut-off at 300 captured the top 51.9% of CAO applicants whereas in

2014 a cut-off at 340 captured the top 51.2%, just 0.7% less than the cut-off at 300 in 2002. How many extra points would that 0.7% account for, so as to find what points' cut-off the slightly higher 51.9% would equate to in 2014? It is reasonably easy to estimate this because narrow bands are given in the 2014 CAO data which show that a drop of 10 points from 340 to 330 includes an additional 2.5% of the total cases. Expressing 0.7 as a fraction of this 2.5 and multiplying by the 10 points results in 2.8 points which when rounded to 3 means that the cut-off for the top 51.9% in 2014 would be approximately 340 – 3 = 337 points. Close to the median, therefore, there has been an increase of approximately 37 points between 2002 and 2014. In real terms then, assuming that on average LC students have not improved in the meantime, the real standard for entry to the IOT sector declined between 2002 and 2014 by approximately 20 points at the median.

It should be noted that the bonus points for anyone obtaining at least a D3 in higher level Mathematics introduced in 2012 have not been included. The points for both 2002 and 2014 are out of a total of 600.

Even if the increase of some 17 points for the typical IOT entrant between 2002 and 2014 represented a real improvement in academic ability, it could hardly be expected to account for not only the grade increase which has characterised all undergraduate award levels but also the major shift from the NQA level 6 to the much more academically demanding level 8 courses within the IOT sector.

9. Long Term Change in CAO Entry Points

Comparisons in both 1992 and 2014 between the mean of the median points (sum of all median points divided by the number of courses involved) and the mean of the weighted median points for all 13 IOT level 6, 7 and 8 courses reveals that the former tends to be a close approximation of the latter. In 1992, the mean of the weighted median points was, as detailed above, 324, while the mean of the median points was 322. In 2014, the mean of the weighted median points was 341 as compared with 336 for the mean of the median points. In both cases, weighting the median points by the number of places on each course slightly increases the figure. This suggests that there is a slight tendency for courses with higher median points to have more places. As one might then expect, in both 2002 and 2014, minimum points showed a low but statistically significant correlation with the number of places on each course, r=.118 (p=.035) in 2002 and r= .125 (p=.002) in 2014. The tendency for higher median points to be matched with a larger student intake is, however, so small as to allow the

mean of the median points to very closely approximate the figure obtained when the number entering each course is taken into account. A further unsurprising pattern evident in both the 2002 and 2014 figures is that there is a very strong correlation between minimum and median points for courses. In 2002, the correlation for 319 level 6, 7 and 8 courses across the 13 IOTs was r=.81, very closely matched in 2014 where, across 588 level 6,7 and 8 courses, the r coefficient was .79.

The stability from 2002 to 2014, more than a decade later, in the match between minimum and median points and between weighted and unweighted median points suggests that these findings are not random occurrences. This is a particularly useful finding in that it suggests that median course points on their own may act as an accurate measure of the academic calibre of the tranche of students entering the sector in any given year. While course places have only been made available for 2002 and 2014, median points for all level 6, 7 and 8 courses in the sector are available on the CAO website for every year since 2002. It is also apparent that, due to the high correlations between minimum and median points, in the absence of median points prior to 1992, minimum points can be used to act as an alternative means to estimate the academic calibre of entry tranches before 2002.

Table 11 below lists the mean of the minimum points for each year between 1991 and 2011 for all combined level 6, 7 and 8 course intakes [3] into the 13 IOTs and the mean of the median points for each year from 2002-2011. The CAO did not begin to publish the median points on which students accessed courses until 2002. The number of level 6/7 and level 8 course intakes across the 13 IOTs on which the figures are based are also included.

Mean minimum points were at their highest in the early 1990s with 1991 being the highest of all years at a mean of 284. There was a steady decline to the middle of the decade and a further decline to the end. A low of 206 was reached in 2000 after which began a slow increase bringing the figure back up to 228 in 2008. After that, each year saw a greater increase with a major jump between 2010 and 2011 bringing the mean of the minimum points to 300, finally surpassing the previous high of 284 set in 1991. The increase since 2000 in mean minimum points was not, however, matched by any real increase in the mean of the median points up to 2010. That figure remained quite steady between 320 and 325 between 2002 and 2009 but then increased to 347 in 2011.

[3] A proportion of courses are not included because they do not employ standard CAO points for entry. As an indication of the number, in 2014 slightly more than 10% of Level 8 course places were in this category but only 1.9% of level 6/7 courses, which amounts to under 6% of the total undergraduate course places.

As pointed out above, stability and latterly increase in median points must be understood in light of the long term trend of increase in the points being obtained by each successive applicant cohort to the CAO. In 1995, 41.3% of applicants had 300+ points. In 2015, 62.1% had 300+ points (not including bonus points). The median points' score went up from approximately 250 in 1995 to approximately 350 in 2015. Focusing on the period 1992 to 2006, O'Grady (2009) related this trend to a large increase in higher grades in the Leaving Certificate Examination. He reported on an analysis of the 10 most popular LC subjects at higher and at ordinary level. For the higher level subjects, there was a 142% increase in the award of A grades and a 52.2% increase in B grades over that period. For lower level subjects, there was a 520% increase in A grades and a 95% increase in B grades. Inevitably, then, there has been a major increase in CAO points.

Relative to the points being obtained by CAO applicants overall, applicants to the 13 IOTs have been losing ground since the mid-nineties with some signs of a little ground being regained in 2011.

Table 11: CAO Points for Entrants to the 13* Institutes of Technology 1991-2011

Year	N Courses Level 6,7	N Courses Level 8	Mean of Min Points	Mean of Median Points
1991	167	15	284	
1992	173	16	270	
1993	177	15	260	
1994	185	15	241	
1995	198	18	231	
1996	208	18	213	
1997	241	22	231	
1998	248	27	225	
1999	253	32	208	
2000	255	38	206	
2001	259	51	215	
2002	248	76	214	322
2003	246	84	218	320
2004	249	92	220	321
2005	256	102	219	320
2006	280	124	224	321
2007	286	146	227	324
2008	298	165	228	324
2009	307	185	243	324
2010	322	207	258	325
2011	336	218	300	347

*DIT not included.

Given the very large increase in the points students have been getting in the Leaving Certificate Examination (on average about 100 points more in 2015 than in 1995), it is most remarkable that points for entry to Institute of Technology courses remained below the early 1990 levels right up to 2010. This represents a very significant decline in the academic ability of entry cohorts to the sector since the early 1990s. This should have been reflected in a considerable decline in better grades at graduation not the large scale increases described above.

10. CAO Entry Points for the 2007/08 & the 2012/13 Graduates

The 2007 and 2008 level 8 graduates whose grades have been used as a the baseline measure in Table 3 above mainly commenced their courses in 2003 and 2004, irrespective of whether they entered on level 6, 7 or 8 courses. The level 8 graduates of 2012 and 2013 would mainly have commenced in 2008 and 2009. As listed in Table 11 above, the mean of the median points for 2003 and 2004 were 320 and 321 respectively while the equivalent figures for 2008 and 2009 were 324 in both cases. Such a minor increase cannot be regarded as suggesting any real improvement in the academic calibre of students entering the IOT sector. When the overall increase in CAO points (between 2003 and 2009, the proportion getting 250+ and 350+ points increased from 40.8% to 43% and from 64.4% to 65.2%, respectively) is taken into account, students entering the IOT sector almost certainly dropped back in academic ability relative to the average.

The 2007 and 2008 levels 6 and 7 graduates mainly commenced their courses in the years 2004-2006, while the equivalent graduates of 2012 and 2013 commenced mainly in 2009-2011. The mean of the median points in 2004, 2005 and 2006 were 320, 321 and 320 respectively. In 2009, 2010 and 2011, they were 324, 325 and 347. Only in 2011 is there any indication of a real improvement. This again has to be set against the overall trend of increased points for the CAO applicant group as a whole, though an increase in average CAO points for entrants of 22 points in one year almost certainly indicates at least some small improvement in the academic ability of students entering the sector. This increase was not caused by the additional bonus points for higher level mathematics which did not commence until 2012 and which the CAO points figures reported in this paper do not include.

The 2011 increase, however, can have very little impact on the grade increase described above in Table 3 at levels 6 and 7 between 2007/2008 and 2011/2012. Entrants in 2011 could only graduate in 2013, at the earliest, with a level 6 qualification. All other level 6 and 7 graduates included in the averages

for 2011/2012 must have entered before 2011. Any improvement in CAO points can then only have had an impact on level 6 in 2013. If it had such an effect, it should be detectable in an improved level 6 grade profile in 2013 as compared with 2012. Instead, there was a decline in Distinctions to 23.09% in 2013 from 25.02% in 2012. There was a small increase in the Merit 1 grade in 2013 to 26.8% up from 26.21% in 2012.

Overall there is nothing in the pattern of CAO figures which offers any help in explaining the substantial increase in the award of higher grades between 2007/08 and 2012/13 at all three undergraduate levels across the 13 Institutes of Technology.

11. Change in Proportion of Mature Students

If the academic calibre of CAO entrants, who make up a heavy majority of IOT students, shows no signs of having improved, could the continuous increase in the rate of higher grades awarded at all undergraduate levels on graduation be explained by an increase over the same period in students entering outside the CAO system? One group the members of which may enter the IOT sector outside the CAO system consists of mature students (defined as aged 23 or higher by Jan 1 of the year in which third level study is commenced) and its numbers has increased considerably since the late 1990s.

Across the entire higher education sector in Ireland, the participation of mature students has increased from 4.5% of new entrants to undergraduate programmes in 1998 to 15% in 2010/11 (Carroll and Patterson, 2011, p3). Moreover, the increase in the IOT sector has been greater than at the universities. Figures supplied directly by the Department of Education and Skills to the author revealed that in 2000 (when the DoES. began to collect such figures) the proportion of mature students entering the 13 Institutes of Technology (DIT not included) at undergraduate level was 9% while in 2004 the proportion was 10.7%. Carroll and Patterson (2011, p9) report for all 14 IOTs that, for the academic year 2006/07, the figure for mature full-time entrants was 12%, increasing to 13% in 2008/09, then jumping sharply to 17% in 2009/10 and reaching 20% in 2010/11. The corresponding proportions which mature students comprised of part-time entrants were 77%, 80%, 83% and 89%. As, in and around 20% of undergraduate students in the IOTs are PT students, this boosts the number of mature students significantly.

While it is clear that full-time mature students make up a considerably greater proportion of the student body in the IOTs than they used to do, it is not as clear that mature part-time students do likewise. As shown in Table 12 below,

the proportion made up by part-time students of all undergraduates in the 13 IOTs has not increased over time. Since 2009/10, it has been somewhat below the level seen in the early to mid-1990s. The variation is not very great and generally part-time students make up around a fifth of the total undergraduate enrolment in the IOTs.

Table 12: Full-time and Part-time undergraduate enrolment in the Regional Technical College/Institute of Technology sector in the academic years 1993/94 to 2012/13*

Enrolment	Full Time	Part-Time	Total	%PT
1993-94	23960	6053	30013	20.2
1994-95	24952	6288	31240	20.1
1995-96	27573	6668	34241	19.5
1996-97	30583	7227	37810	19.1
1997-98	31769	7245	39014	18.6
1998-99	33368	8193	41561	19.7
1999-00	36318	10992	47310	23.2
2000-01	38110	11664	49774	23.4
2001-02	39512	12232	51744	23.6
2002-03	40508	11497	52005	22.1
2003-04	42685	11420	54105	21.1
2004-05	41306	9742	51048	19.1
2005-06	42385	9280	51665	18.0
2006-07	42335			
2007-08	41325	11874	53199	22.3
2008-09	43723	11054	54777	20.2
2009-10	48050	11201	59251	18.9
2010-11	50681	11480	62161	18.5
2011-12	51545	11216	62761	17.9
2012-13	52311	11903	64214	18.5

*Figures for only the 13 Institutes dealt with in this report are included (DIT, Killibegs and Tipperary Institutes not included). Formerly known as Regional Technical Colleges, the colleges became Institutes of Technology in 1997. The figures are drawn from the Department of Education and Skills Annual Statistical Reports 1993/94-2012/13 accessed at http://www.education.ie/en/Publications/Statistics/Statistical-Reports/Annual-Statistical-Reports.html

Historical figures on the age of part-time students in the IOTs are not readily available but it would seem that they have always been mainly in the mature category. Lynch (1996) reported that, for the academic year1993/94, 75% of mature entrants to higher education in Ireland entered as part-time students and 85% of all part-time third level entrants were mature students. The then RTC sector accounted for only 21% of all mature entrants, with the DIT accounting for 25% and the combined universities a further 35%. The remaining 19% was accounted for by a variety of other third level providers. While it is

possible that the age profile of part-time entrants varied somewhat from sector to sector, that 85% of all part-time students were classed as mature strongly suggests that the bulk of part-time entrants to the then Regional Technical Colleges (RTCs; IOTs since 1997) were also in the mature category. Given, then that part-time students have accounted for a relatively constant 18-22% of all undergraduate students since 1993/94 and the evidence would suggest that they have always been mainly mature students, the impact of the mature effect through the part-time cohort, whatever that might be, is likely to have remained relatively constant over the period since 1994 and does not appear to offer any help in explaining the constant grade increase over the whole period.

What then of mature students who study full-time? It is clear from the figures described above that their proportions have increased significantly over the period under study By 2010/11 one in five new full-time entrants to the IOT sector was a mature student. This rate of participation is sufficient for mature students to have the potential to impact on grade rates but only if they persist to graduation and then obtain a very disproportionate number of higher grades. It might be supposed that such students, on account of their greater life experience and maturity would take their studies more seriously, apply themselves more diligently and, in consequence, obtain more high grades than their younger counterparts. On the other hand it might also be hypothesised that mature students would labour under various disadvantages such as having difficulties fitting into what is predominantly a youth oriented environment, finding the academic process more unfamiliar being out of the educational system for varying, sometimes lengthy, periods of time and perhaps having to balance the responsibilities of home and family life with those of study.

An argument against positing an increase in mature students as a potential explanation for grade increase is that, as explained in Section 6 above, the majority of them gain access through the CAO system and they are then included in the points analysis described above. There are, however, two counterpoints to that argument. One is that a minority are admitted directly to the IOTs on a special arrangement for mature candidates. The other is that the predictive nature of CAO points may not be the same for school leavers and for those who left school possibly decades ago. It is possible that mature students perform better at third level than their Leaving Certificate results would normally predict. First, of course, they would have to persist in their courses and not drop out more frequently than their school-leaver counterparts. Otherwise, their impact on the graduation figures would be reduced.

An analysis by the HEA which compared the rate of progression from first to second year in the Institutes of Technology for 2008 entrant mature versus non mature students offers evidence that mature students do stay the course, at

least into second year (Mooney et al, 2010). Mature entrants to level 6 and 7 courses were more likely to get through to second year and mature entrants to level 8 courses were equally likely to get through as their younger counterparts. For level 6 and also for level 7, the drop-out rate for mature students was 18% compared with 26% and 27% respectively for younger students. For level 8 entrants, the drop-out rate was 16% for both age groups. A second HEA study (Patterson and Prendeville, 2014) targeted the 2010 entrants and found that while the drop-out rate had considerably increased overall, mature students were more likely to make it through to second year at all levels in the IOTs. At levels 6, 7 and 8, the drop-out rates for mature students were 23%, 21% and 17% as compared with 34%, 30% and 18% respectively for the younger group.

It is clear that full-time mature students are more likely than their younger counterparts to make it through Year 1 and into Year 2 of their courses. While the figures are not available to bear this out, it is unlikely that, having persisted over the first major hurdle, that mature students go on to drop out later in greater numbers than younger students. It would appear as if they are likely to be there in greater proportions when it comes to graduation but do they win a greater share of the better grades?

It is important to appreciate the limits of the impact on grade rates which can be expected to be exercised by a minority group which comprises, at most, one fifth of the student body. Taking the case of First Class awards at honours degree level, in the late 1990s, the rate stood at around 10%. By 2013 it was approximately 19%. In roughly the same period the proportion of mature full-time students in the IOTs has, using round figures, doubled from 10% to 20%. Let us hypothesise that mature students win twice as many Firsts as their younger equivalents each year. If in the late 1990s, 10% of younger students and 20% of matures received Firsts in their degrees, that would amount to only a total of 11% receiving Firsts (90 x 0.1 + 10 x 0.2). Presuming the relative propensities of the two groups to obtain Firsts remained unchanged, a doubling of the proportion of mature students by 2013 would bring the overall rate of Firsts to only 12% (80 x .01 + 20 x .20) while our figures show that the actual rate of Firsts increased to 19%. Even if a half of all matures obtained firsts, a doubling of their proportion in the student total would only bring an overall 10% (90 x .0555 + 10 x 0.5) rate of firsts to 14.5% (80 x .0555 + 20 x 0.5). The figure of .0555 in the last two calculations is dictated by the necessity to achieve an overall total of 10% in the first calculation and to show the effect on the second calculation of a doubling of the number of mature students while holding constant the rates of Firsts for each group.

To contribute in any major way to the level of grade increase there has been in the IOT sector, mature students would have to perform astonishingly

well. Is there any evidence that they do? Unfortunately, there does not appear to be any published comparison of the performance of mature and non-mature students in Irish higher education. In the absence of direct evidence on the matter, the only fall-back is indirect evidence, of which there is some. Mooney et al (2010, p.44), based on a Higher Education Authority study of all new entrants in 2007 to higher education in Ireland, report that, when educational attainment is taken into account (CAO points), age has no significant impact on progression into year 2. They found that CAO points were a strong differentiator between those who made it through to second year and those who had dropped out by then. The difference in progression rates between those entering with very high and very low points was very large. Those entering with 0-50 points had a drop-out rate of 50%. This declined with increasing points in a quite linear fashion to 5% and lower for those with 500 or more points (Mooney et al. 2010, p.18, Fig 1).

The key obstacle to surviving into the second year of higher education is a lack of prior educational attainment. That the effect of age on progression is eliminated when prior educational attainment, as measured by CAO points, is taken into account indicates that CAO points' capacity to predict performance in higher education is largely independent of age. While this does not conclusively prove that older students do not get better grades than their CAO points would predict, it strongly suggests that this is likely to be the case. If older students of equal prior educational attainment to their younger counterparts are no more able to make it through to the second year of their courses and, if prior educational attainment is strongly predictive of progression, as we see it is, then it seems unlikely that older students will subsequently get much better grades than their CAO points would predict.

The indirect evidence concerning mature students based on an analysis of part-time students, who are in the main mature, and on the survival rates for mature students into the second year of their undergraduate courses in the IOT sector offers nothing in the way of an explanation for the continuous upward climb in the rate of higher grades across all undergraduate level qualifications since 1994. Even if part-time students, being mainly mature, do outperform their full-time equivalents, their numbers have not been growing and part-time students would always seem to have been largely mature students. They represent a constant which in itself cannot account for the change which begs for an explanation. Mature students as a proportion of full-time students in the IOTs have been growing but not at a rate sufficient to go very far in explaining the rate of grade increase which has occurred. Moreover, they seem to be just as susceptible to the effects of prior educational achievement, as measured through CAO points, in terms of coping with the demands of third level study, and the lion's share of mature students enter on the basis of their CAO points. The

relevance of this is that, overall as detailed above, CAO points among entrants to the IOT sector have not been rising in any significant way and in real terms (taking account of grade inflation in the Leaving Certificate) almost certainly have fallen quite substantially. Full-time mature entrants, while they have better CAO points' scores on average than their younger counterparts, are not there in sufficient numbers and do not have such a points lead that they have been able to raise the average points' tally in any appreciable way. They should not then be contributing in any major way to the remarkable increase in all the better grades across the whole system.

While there does not appear to be any data on the final rate of course completion or on the academic performance of mature students in the IOT sector in Ireland, there are some studies of this nature carried out in the university sector. Such studies may be instructive and are detailed in the following paragraphs.

Fleming and Murphy (1997) examined the first year examination performance of 78 mature students studying at NUI Maynooth for a B.A. and reported a pass rate among them of 86%. The only comparison information provided was that this represented "a slightly higher pass rate than the pass rate of the total student population" (Fleming and Murphy (1997, p28). No data comparing the actual marks or grades obtained by mature students with others was provided.

Finucane et al (2013) reported on a study of 285 medical students across all four years of an Irish university graduate entry programme. In each year, the students were administered a special formative knowledge test designed to appraise their command of course content. On admission to the course, 62% were aged less than 25, 29% between 25 and 30 and 8% were aged over 30. No significant difference in performance was found between the different age groups.

Blaney and Mulkeen (2008) detailed the non-completion rate of undergraduate entrants to UCD between 1999 and 2006. They reported that there was not a statistically significant difference between the completion rates of mature and non-mature student entrants. It is doubtful if statistical significance has any real meaning in the context of a study where the sample and the population is the same (all entrants for 1999-2006 were included in the analysis). The actual figures show that mature entrants had a lower completion rate (17%) than those aged under 23 (15.8%).

While these studies are all from the university sector, they offer little support for the hypothesis that maturity per se improves academic performance or overall completion rates in higher education.

Not surprisingly a more extensive literature on the topic exists in the U.K. and the US. In a search of the literature, a focus was maintained on identifying studies with larger and likely more representative samples where either the completion rates or a measure of performance was used to compare mature and younger students in higher education. There are quite a few smaller studies focusing on specific groups but these are in danger of suffering from local or sample effects and are not described below.

Three extensive US studies drew on data from nationally representative longitudinal population surveys to estimate the relative likelihood across the United States of students completing a degree if they entered College immediately after high school as compared with entering following one or more years' delay. Both Bozick and DeLuca (2005) and Adelman (2006) drew on the National Educational Longitudinal Study to conclude that those who delayed entering College were less likely to complete a bachelor's degree than those who entered straight from high school. Bozick and DeLuca (2005) found that those who delayed were 64% less likely to complete a degree. Adelman (2006) concluded that entering college directly from school was associated with a 21.2% greater chance of completion. Jacobs and King (2002), based on a sample of 5,142 women, aged 15-44, from the National Survey of Family Growth, also concluded that entering college after a delay reduced the chances of completing a degree. None of the three studies, however, addressed the question of how well those who completed their courses performed.

In the UK, McManus et al (2013) based on a study of 4,811 students, who entered 12 separate medical schools between 2006 and 2008, reported a correlation of .08 ($p<.001$)between first year examination results and a dichotomous age variable (aged <21 or 21+ at the time of completing the UKCAT test required for entry to medical school). When age was dichotomised at 30, the correlation with results ($r=.003$) did not reach significance. The age of the students ranged from 17 to 45, with 28.9% aged 21+ and 1.3% aged 30+. While students aged 21 and over performed better on their first year examinations, the small size of the correlation (.08) means that the difference between the averages of the two groups was very small. Only .0064%, less than a tenth of one percent, of the overall variance in examination performance was attributable to whether a student was under or over the age of 21. The finding is a lesson in the difference between statistical significance (likely to occur by chance less than 1 in 1000 times in this case) and 'significance' in the sense of having some real implications or mattering much. Very small differences indeed between groups can be statistically significant (unlikely to occur by chance) when one is dealing with large groups, as in this case. Such a small difference in performance would

be unlikely to have any impact on grade distributions between younger and older students.

Osborne & Leopold (1997), studied a much wider range of students at the University of Stirling in Scotland, the total intakes (n = 2,400) across all faculties in 1992 and in 1993. They compared the performance of mature students (defined in the U.K. as aged 21 or over on entering college) with the overall performance of the student body using semester unit grades as the measure. Students took three units per semester and received a grade between A and E or No Grade in each. Grades A, B and C were pass grades and the others fail grades. Approximately one third of students were classified as mature. They obtained a slightly smaller proportion of pass Grades (A+B+C) than the student body as a whole (92.2% vs. 94.3%) but that was due to receiving fewer B and C grades. The mature group obtained more A grades than the overall group (12.3% vs 10.3%). Mature students had a somewhat more widely distributed performance than the average. In addition to featuring more frequently at the top end of the distribution, they did so also at the bottom end, with 3.9% of their semester units being classified as 'No Grade' as opposed to 2.3% overall.

The most extensive study of the relationship between age and degree performance identified in the literature was that by Woodley (1984). His analysis included the complete intakes for all U.K. universities for the years 1972, 1973 and 1974 but excluding overseas students. This amounted to 165,400 entrants aged under 21 and 18,343 aged 21 and above, defined in the UK as mature students. He found that mature students were somewhat more likely to drop out before graduating than their younger counterparts (17% versus 13%). Of those who graduated, there was very little difference in the percentages obtaining either Firsts or Upper Seconds in their degrees (Mature = 32%; Younger = 33%). As a proportion of entrants, then, mature students were found to do somewhat less well but that was mainly due to a higher drop-out rate.

A much more recent large scale study by Woodfield (2011) targeted all EU and UK origin students who graduated with an honours degree from UK universities in 2006 and who responded to the Destination of Leavers from Higher Education survey by the Higher Educational Statistical Agency. Of all graduates that year, 74% (N=232,063) responded to the destinations survey. Younger graduates (<21 at entry) in 2006 outperformed their mature colleagues with 59% of the former group being awarded a First or Upper Second degree as compared with 52% of the latter. The contrast between those percentages and those by Woodley (1984) reported above is striking. For the years 1972, 73 and 74, the proportion of Firsts and Upper Seconds combined obtained by younger and mature students were 33% and 32% respectively as compared with 59% and 52% in 2006. The equivalent figure (i.e. Firsts + Upper Seconds) for the 13

Institutes of Technology was 56% based on the average of the 2012 and 2013 figures for all Level 8 graduates.

There was one national analysis in the UK which reported superior performance by mature students in their first degrees. This was by Bourner and Hamed (1987) cited in Hoskins, Newstead and Dennis (1997). This study found that in 1983 in the former Polytechnics (now post 1992 Universities) 39% of mature students graduated with Firsts or Upper Seconds as compared with 34% of younger students. It is notable that Woodfield (2011) reported that, of all the mature students in his analysis, only 32% graduated from a pre- 1992 university. Over two thirds graduated from the same institutions as reported on by Bourner and Hamed (1987). It is unlikely, then, that the inclusion of the pre-1992 universities in Woodfield's figures and their absence from the Bourner and Hamed report accounts entirely for the difference between the 1983 and the 2006 figures. Mature students in the post 1992 universities would seem to have lost their edge over their younger counterparts.

Overall, when larger scale studies from the US and UK are examined, there is little to suggest that an increase in mature students is likely to go very far in explaining the scale of grade increase in the IOT sector since 1994. Even if the Bourner and Hamed (1987) finding in the former Polytechnics was replicated throughout the IOT sector in Ireland, the 15% advantage shown by mature students in winning higher grades would only apply to 20% of students. That would amount to only a 3% increase in better grades when spread over the whole student population. The actual increases, as detailed above, dwarf that figure.

12. Relevance of Institute Size

As evident in Table 13, below, there is a clear link between Institute size and rate of grade increase over the period 2007/08 to 2012/13 with the three larger Institutes (those with over 6,000 undergraduate students) having, on average, a much lower pattern of increase than medium sized or smaller Institutes.

Within each of the three groups (large, medium and small) there are Institutes which show exceptional patterns for their groups. For example, at level 8, Blanchardstown and Dun Laoghaire (IADT), though in the small Institute category, show a pattern of grade change similar to the large group, as does Dun Laoghaire at level 7. Size is, therefore, not an entirely reliable predictor of the rate of grade increase/decrease but a broad pattern is very obvious.

Table 13: Rate of Grade Increase/Decrease between 2007-08 and 2012-13 and Weighted Median Points 2014 by Institute Size based on total Undergraduate Students * in the academic year 2014-2015.

Institute Size	Student Numbers 2014-15	Mean of Weighted Median Points 2014	%Change 1st+2.1 (Level 8)	%Change Dist+M1 (Level 7)	%Change Dist+M1 (Level 6)
Large (6000+)					
Cork	9539	381	5.1	8.6	19.8
Waterford	7188	349	-3.2	5.6	5.8
GMIT	6062	358	1.5	9.6	8.2
Mean	**7596**	**363**	**1.1**	**7.9**	**11.3**
Medium (4000-5999)					
Limerick	5799	340	-5.4	3.7	28.0
Carlow	5682	349	-8.9	18.0	15.5
Sligo	5223	325	6.7	12.9	23.0
Tallaght	4890	315	34.5	16.4	49.9
Dundalk	4622	337	22.8	8.6	43.5
Athlone	4530	338	26.5	22.1	22.5
Mean	**5124**	**334**	**12.7**	**13.6**	**30.4**
Small (2000-3999)					
Letterkenny	3399	299	32.9	41.6	18.2
Blanchardstown	3229	318	1.1	12.8	45.2
Tralee	2896	345	51.2	17.0	7.7
DunLaoghaire**	2096	-	-2.7	-1.0	-
Mean	**2905**	**321**	**20.6**	**17.6**	**23.7**

*Source: http://www.hea.ie/node/1557 Full-time, part-time and remote enrolments in Institutes of Technology in the academic year 2014/2015

** Mean of weighted median points is not included for Dun Laoghaire because a high proportion of its students enter using non-standard points.

Size of Institute is also a predictor of the points on which students enter their courses, with the larger Institute group having a higher mean (363) then the medium group (334) which in turn has a higher mean than that of the smaller group (321). Again, Institute size is by no means a perfect predictor and there are anomalous cases, such as Carlow in the medium group, which has the exact same average points' score as Waterford in the large group. Tralee, in the small group, has an average points' tally which is higher than all but one Institute in the medium group. Nevertheless, based on the 2014 figures the general pattern is of a positive relationship between Institute size and the points on which students enter undergraduate courses and, paradoxically, of an inverse relationship between points' and rate of grade increase. Smaller Institutes tend to take in students on lower points but show a faster rate of grade increase between 2007-2008 and 2012-2013.

O'Grady (2011) reported similar findings with respect to Institute size and rate of higher grades awarded using the mean of the weighted median CAO points for 2002. As noted in that report, such findings accord with the institutional growth explanation for grade inflation posited by O'Grady and Guilfoyle (2007). They suggest that a key factor is the priority accorded by Institutes of Technology to continuing growth in student numbers, which when faced with the inevitably finite supply of students of suitable academic calibre, leads towards a process of lowering standards so as to retain weaker students. This process affect all Institutes of Technology but is accentuated in smaller Institutes due to the greater challenge they have in attracting students which is, after all, the reason they are smaller in the first place. Guilfoyle (2011), as mentioned above, argues that, when academic standards are lowered, those at the upper end of the ability spectrum benefit disproportionately, leading to the observed growth in the rate of top grades.

13. Projection of Grade Increase Trends

That grade increase of the nature detailed in the above figures is, like all inflationary effects, altogether unsustainable in the longer run, can be seen clearly when one projects into the future the current rates of increase.

If, at Level 6, the percentage of Distinctions were to go up by a fifth every seven years, as it has more than done in the 2007-2013 period, by 2027, over a third of all awards would be Distinctions; by 2041, half of all awards would be Distinctions and, before the seven years period leading up to 2069 was up, all awards would be at the Distinction level.

At level 7, the prevalence of the Distinction grade, rising at 19% every seven years (rate of increase 2007-2013), will surpass the one third mark by 2041, the 50% mark by about 2057 and all awards will be Distinctions by 2084.

At level 8 in 2012/13 the rate of First Class awards was 18.5%. The rate of increase between 2007/08 and 2012/13 was 13.5%. If this rate of increase was sustained in every subsequent 7 year period, by 2020, only 4 years from now, the rate will have passed 20%. By 2048, Firsts will account for about 35% of all awards and by 2069, more than half of all awards will be in the First Class category. In several Institutes, the future has already arrived. At GMIT, Athlone, Dun Laoghaire and Letterkenny, the rate of Firsts already reached or exceeded the 20% threshold by 2012/13 and in Tallaght, the 25% barrier was broken. To not get a First Class degree is rapidly becoming a sign of relative educational underperformance in the IOT sector.

14. Dublin Institute of Technology

As indicated earlier, the figures for Dublin Institute of Technology (DIT) were not collected when previous investigations of grade inflation in the sector were conducted by O'Grady and Guilfoyle (2007) and O'Grady (2011). The number of undergraduate awards and the proportions at each grade were obtained from DIT for the current analysis covering the years 2009-2013. In the absence of a prior baseline it was not possible to compute the pattern of change in grades at DIT as was described above in Section 2. It is possible, however to compare the more recent grading pattern at DIT with the remainder of the IOT sector. Table 14 below lists the average rates for 2012 and 2013 of the top two grades at each NQA level for DIT and for the other 13 Institutes combined.

As evident in column 4 of Table 14 below, at levels 7 and 8, DIT has a higher rate of top grades, though at level 8 that is limited to Upper Seconds. At level 6, it has a slightly lower rate of the top two grades. As with level 8, at level 6 the percentage of the top grade (Distinction) at DIT is lower than at the other IOTs – quite considerably lower in this case.

Based on the mean of the weighted median course point scores for 2014, DIT shows evidence of attracting entrants with stronger academic ability than the other IOTs combined. For level 6 and level 7 entrants the mean points' score for DIT is 384 as compared with 329 for the combined courses across the other 13 Institutes. Its margin over the others of higher grades at level 7 is not, therefore surprising. Its lower rate, particularly of Distinctions at level 6, is surprising and suggests the maintenance of higher academic standards.

Table 14: Comparison of DIT with other 13 Institutes of Technology on the percentages of the top two grades at levels 6, 7 and 8, averaged for 2012 and 2013

Level 8 (Hons. Deg.)	**First %**	**Upper Second %**	**First + Upper Second %**
DIT	17.0	47.2	64.2
13 IOTs	18.5	37.6	56.1
Level 7 (Ord. Deg.)	**Distinction %**	**Merit 1 %**	**Dist. + Merit 1%**
DIT	25.2	33.1	58.2
13 IOTs	20.3	30.9	51.2
Level 6 (Nat Cert.)	**Distinction %**	**Merit 1 %**	**Dist. + Merit 1%**
DIT	16.9	30.7	47.6
13 IOTs	24.1	26.5	50.6

For level 8 entrants, the mean of the weighted course median points at DIT in 2014 was 409 as compared with 357 for the other 13 IOTs combined. This again suggests that the typical entrant to DIT Honours Degree courses is appreciably stronger academically than that of the other 13 Institutes. The higher rate of Upper Seconds might, therefore, be expected. The lower rate of Firsts is, however, somewhat surprising and again suggests a tendency in DIT towards higher academic standards. This offers further evidence in support of the Institute size effect discussed above in Section 11. DIT is a much larger Institute than any of the others with 19309 full-time, part-time and remote enrolments in the academic year 2014-15. As listed in Table 13 above, the next largest Institute is Cork with 9539 enrolments in the same year, less than half that of DIT.

While DIT would seem clearly to be maintaining higher than average academic standards, its rate of higher grades as listed in Table 14, broadly comparable to the other IOTs, strongly suggests that it too has been prey to a high level of grade inflation. It is very unlikely that it would have awarded anything like such high rates of better grades ten or twenty years ago. While too much in terms of a longer term trend should not be inferred from a series of 5 years, it is of interest that at both level 6 and level 7, over the years 2009-2013, there was a not insignificant jump in the rate of the top grade at DIT. Firsts at level 8 increased from 14.2% in 2009 to 17.4% in 2013. The rate of Distinctions at Level 7 increased from 23.7% to 26.9%. At level 6, the percentage of Distinctions declined however from 21.3% to 18.6%. Without the figures for previous years it is not possible to say anything definitive, however, about the extent of grade inflation which may or may not be taking place at DIT.

15. Comparison with the University Sector

An analysis of the points for all courses in the five universities in 2014 revealed that the mean of the median points weighted for course places was 462. This calculation included 537 undergraduate medicine places in UCD, UCC, TCD and NUIG where the median standard CAO points' number was estimated as 550. The points listed for such courses on the CAO website include points obtained for the HPAT test and are not, therefore, comparable with standard CAO points. Based on past history and the current points for other health related courses such as Dentistry, it likely, however, that the median standard CAO points would be in the region of 550. Exclusion of the 537 medicine places resulted in a mean of weighted median points score of 460. At each University a small number of other courses are excluded due to non-standard entry mechanisms. They account for a total of only 241 students or about 1.2% of the total. In addition the numbers for mature entry nursing courses at TCD, NUIG, UL and DCU were not available. As the proportion of places reserved for mature

students ranges from 15% for general nursing (accounting for the highest proportion of nursing places) to 35% for psychiatric and intellectual disability nursing (accounting for a much smaller proportion of places) the impact on the total numbers will be negligible.

The typical student entering the university sector in 2014 had 462 points. This contrasts markedly with the 341 points on which the typical student entered the 13 IOTs and the 357 points on which students entered ab initio level 8 (Honours Degree) courses in the IOTs. To obtain 462 points in the Leaving Certificate examination, a student would have to have at least four B2 grades, one B3 grade and one C1 grade in higher level subjects. To obtain 357 points, five C3 grades and one D3 grade would be sufficient. To obtain 341 points one C2, one C3 and four D1 grades would be enough.

Those comparisons, though stark enough, nevertheless greatly underestimate the implications of the two typical points' tallies. They each represent the average or middle ground. Individual students' points are distributed in a bell curve or normal distribution around the average. A distribution around 341 or 357 means that the curve inevitably tails off towards the top in a way which excludes most of those at the upper end of the total distribution. A distribution around 462, a major shift upwards in points' terms, captures the bulk of those at the upper end but excludes most of those at the bottom end of the distribution. The outcome then is that most students whom one would expect on the basis of their Leaving Certificate performance to once again perform very well in college are in the universities. Comparatively few of them are in the Institutes of Technology. One would then expect to find a far higher rate of First Class and Upper Second grades among university graduates than among IOT graduates, if anything like similar academic standards apply across the two sectors.

To see if this is the case the university undergraduate grade figures were obtained from the Higher Education Authority for the years 2010-2014. Table 15 below lists the percentage of Firsts and Upper Seconds awarded in the combined seven universities between 2008 and 2014. The years 2008 and 2009 were the closing years of the previous period analysed by O'Grady (2013) and are included here for comparison purposes

The average rates of level 8 Firsts and Upper Seconds for the years 2012 and 2013 in the 13 IOTs, as listed in Table 3 above, were 18.5% and 37.6% respectively. A comparable analysis for the seven universities combined revealed that the averages of Firsts and Upper Seconds for 2012 and 2013 were 15% and 47%.

Table 15: Percentage Firsts and Upper Seconds in the 7 Universities combined (2008 – 2014)

Year	% First	% Upper Second
2008	16.2	48.4
2009	16.4	47.6
2010	15.4	47.1
2011	14.7	47.8
2012	14.6	46.9
2013	15.4	47.0
2014	16.0	49.7

Given the very much superior CAO points' profile of students entering the university sector and the extent to which they recruit the lion's share of school-leavers who have demonstrated high academic ability, it is inconceivable that common standards apply to undergraduate honours degrees in the two sectors. That proportionately more Firsts are awarded in the IOTs can only mean that the grade is obtained for a much lower standard of performance. While the universities do award significantly more Upper Seconds, the gap is not nearly as wide as one might expect. Given the very contrasting profile of students in the two sectors, that around 38% of university students fail to win either a First or an Upper Second, should mean that the vast majority of students in the IOT sector would be unable to obtain a First or an Upper second, if similar standards applied. It is abundantly clear that entirely different standards of academic expectations pertain in the two sectors.

A scrutiny of table 15 above shows that the grade inflation which had previously characterised the university sector in Ireland (O'Grady and Guilfoyle, 2007; O'Grady, 2013) has since 2008 levelled off. Using the same approach as described in Section 1 above, where the average of the figures for the most recent two years of the present period (2013, 2014 in this case) is compared with the final two years of the previous (2008, 2009) it is apparent that there is no substantial change in the rate of either Firsts or Upper Second. The 2008/09 average of Firsts was 16.3% which compares closely to the 2013/14 average of 15.7%. The 2008/09 average of upper seconds was 48% which again compares very closely to the 2013/14 average of 48.4%. Why this is so is altogether uncertain. What is not open to debate is that in the University sector in Ireland, what was traditionally seen as a 'good' degree – a first or an upper second – has now become the norm and cannot therefore stand as a mark of special achievement or as a predictor of particular ability. Standards have been so eroded that a First has taken the place of an Upper Second and an Upper Second has become an average performance. There remains nothing to distinguish those of exceptional ability who would in former times have been identified by a First

and nothing in the grading system to motivate such students to excel or to motivate their lecturers to encourage them to do so.

Paradoxically, while grade inflation, albeit at a very high level, has levelled off in the universities, where the more academically strong students are largely found, it continues apace in the Institutes of Technology where academically weaker students are much more the norm. This, of course, fits with the institutional growth explanation for grade inflation. Since the Institutes of Technology to a large extent must make do with the students who do not achieve the CAO points to enter the universities, their ever burgeoning honour's degree programmes can only be populated by continual erosion of academic standards. The effect is that faced with such low standards, the relatively stronger students find it ever easier to get the top grades. This begs the crucial question of what a Degree from an Institute of Technology actually means. It certainly bears no relationship to what a Degree has always been understood to mean involving a strong capacity to analyse, synthesise, apply and communicate knowledge. Only the most partisan and deluded observer could engage meaningfully with the information available in this report and continue to believe anything of the sort.

16. Conclusions

The series of HEA reports examining the issue of progression in higher education (Mooney et al, 2010; Patterson and Prendeville, 2014; Liston, Frawley and Patterson, 2016) all identified prior educational attainment as measured by CAO points as the principle predictor of whether or not students, both in the Institute of Technology and University sectors, make it through from first to second year. In the most recent of the series, examining progression from first year in 2012/13 to second year in 2013/14, Liston, Frawley and Patterson (2016, p.19 Table 2.3) reported that, for all new entrants to level 6, 7 and 8 courses in the IOTs, 53% of those entering on points from 155-200 failed to make it into second year. The non-progression rate declined steadily as points increased, with only 7% of those with points in the 455-500 bracket failing to make it through. Peculiarly, the two points' bands above that, those with 505-550 and 555-600 points, had somewhat higher non-progression rates of 12% and 10% respectively. Evidently some factor aside from academic ability explains this latter finding. The overall trend, however, offers compelling evidence that how well students perform in the Leaving Certificate is a strong predictor of whether they are likely to cope well in higher education. The following comments made by Liston, Frawley and Patterson warrant careful consideration:

> *"As highlighted in the introduction, previous educational attainment has knock-on effects for the intake of students across the higher education sectors, with those*

obtaining higher points more likely to attend universities and colleges. As a result, the highest rate of non-progression exists in the institutes of technology (23% across all levels) where the most common points attained in the Leaving Certificate are also significantly lower than the university and college sector. Given the sectoral differences in both Leaving Certificate points and non-progression rates, these descriptive statistics point to an overall link between academic preparedness, non-progression and sector. In addition, this research looked at NFQ level across the sectors. In the institutes of technology, non-progression rates are highest at level 6 and 7. Moreover, at level 8 the non-progression rate in this sector is also higher than the universities and colleges". (Liston, Frawley and Patterson (2016, p 41)

The Institute of Technology sector relies for its intake on students with relatively low CAO points. Points in turn are strongly predictive of being suited to higher education. Despite this, as detailed in this report, the rate of top grades just continues on growing across the IOTs and at an altogether unsustainable speed. Even starving the sector of funds does nothing to halt the inexorable grade increase. The period (2009-2013), for which new figures were compiled for this report, showing continuing grade increase across all undergraduate levels and a sharp acceleration in the rate of increase at both levels 6 and 7, corresponds with a period of unprecedented resource retrenchment. According to the Teachers Union of Ireland, funding for the sector declined by 35% between 2008 and 2015 while student numbers increased by 32% (Teachers Union of Ireland, 2016). Not only is the sector making do with a lot less resources but it would seem to be achieving a great deal more with a lot less.

"Seem" is, of course, the key word here; the alchemy of turning less into more is inevitably achieved through grade inflation. Indeed, it may well be the cut in funding which explains the acceleration of grade increase. It would be fanciful to imagine that such severe cut backs would not have a major impact on the quality of education delivered. It is, however, in the nature of grade inflation to paper over all cracks, no matter how wide. Collectively, the members of the academic staff of the IOTs, who control the examination and grading of their own students, are simply unwilling for a variety of reasons to allow the increase in failure rates and non- progression, which should inevitably follow from academically unsuited students entering what should be more demanding courses in a resource starved educational sector. Instead, in a variety of ways, consciously and unconsciously, they lower educational standards year on year with the inevitable effect that the better students get ever better grades (see O'Grady and Quinn, 2007 for discussion of the causes and dynamics of grade inflation). This is the one clear signal from within the system that all is far from what it should be, a signal which the Network for Irish Educational Standards

has been highlighting for some years now but which has heretofore been blithely ignored by everyone with responsibility for the IOT sector.

Another powerful signal that all is not as it should be emerged from an OECD study of the literacy and numeracy standards of adults in Ireland (and in a long list of other developed countries around the world) which was carried out in 2012. This study concluded that, in Ireland, among those adults who hold a degree as their highest qualification, over 25% have a level 2 or lower standard of literacy and around 33% have a level 2 or lower standard of numeracy (CSO, 2013, pp 48 and 58). Based on the tests used, there are three higher standards of literacy and numeracy than level 2. Internationally, those at level 2 and below comprise roughly the bottom half of the general population for the literacy test and the bottom 52% for the numeracy test (OECD, 2013, pp64 and 76). A significant proportion of our degree graduates in Ireland are by international standards in the bottom half of the general population when it comes to literacy and numeracy skills. Such a low level of attainment in what are fundamental educational skills is wholly at variance with what a degree programme should require. Yet, those individuals have degrees.

Not surprisingly, Ireland compares very unfavourably in this respect in the international league tables. In terms of its percentage of graduates aged 20-34 with literacy level of 3 or above, we rank 17th out of 23 OECD counties and 20th out of 23 for the percentage of graduates aged 20-34 with a numeracy level of 3 or above. On both the numeracy and literacy of our graduates, we score very close to England about which the OECD has published a detailed report and from which these figures are drawn (Kuczera, Field and Windisch, 2016, p. 52). Elsewhere in this report there is a revealing categorisation where countries are divided into four groups on the basis of whether they are above or below average on two dimensions: share of graduates with low literacy and numeracy and number of graduates (Ibid, p. 55). Ireland falls into the category with more numeracy and literacy deficiencies yet a higher than average proportion of graduates, together with England, Australia, the US, Spain and Poland. It is no accident that the issue of grade inflation has also been extensively flagged in higher education in both England and the US (e.g. Hu, 2005; Rojstaczer, 2009; Clarke, 2014; Grove, 2015; Massoia, 2015).

Kuczera, Field and Windisch (2016, p. 61) make a very pointed recommendation for how England should respond to the problem of low skill among their graduates:

> *"Those with low basic skills should not normally enter three year undergraduate programmes, which are both costly and unsuited to the educational needs of those involved, while graduates with poor basic skills undermine the currency of an English university degree. These potential entrants should be diverted into more suitable provision that meets their needs."*

Given that the figures for Ireland and England are very similar, this lesson clearly applies just as much to Ireland. Moreover, given the low CAO points' profile of entrants to the Institutes of Technologies in comparison to the Universities (average of 341 as compared with 462 based on 2014 figures) it is inevitable that the majority of graduates with poor literacy and numeracy in Ireland are graduating from the IOT sector. If the IOT graduate figures had been analysed separately by the OECD, it is certain that the picture would be far bleaker again than the already bleak picture painted by the graduates as a whole. It is in the IOTs especially that efforts need to be made to divert unsuitable students away from three and four year undergraduate programmes. This is precisely the opposite of what the Institutes of Technology have been doing and are continuing to do, as evident in the major shift from Level 6 courses to Level 8 described above in Section 7. The current drive to gain university status for the IOTs is clearly designed to set this completely destructive, unrealistic and unsustainable policy in stone.

One can only wonder at what point in the inexorably upward trajectory of Firsts and Distinctions will those with the power to do so begin to intervene. Past and painful experience of regulatory failures offers little ground for optimism. We know that, in Ireland, systems simply do not self-regulate, or at least not in any way that is beneficial to society and, unfortunately, we also know that, in general, external regulation proves to be dilatory and ineffectual.

Instead of seeking to address the problem the Higher Education Authority (HEA) which funds both the Institute of Technology and the University sectors actually incentives the dumbing down process. By funding on the basis of student numbers, it forces third level colleges to focus almost exclusively on recruiting and retaining students. The easiest and often the only way to do this where there are so many institutions competing for the same students is to drop standards. Were it not for grade inflation in the Leaving Certificate this trend would have become uncomfortably obvious long ago due to the widespread decline in minimum points required for entry to third level courses. Students admitted with a lower educational standard will of course fail in larger numbers unless academic demands are reduced. The system of incentives is calibrated in such a way that not only does it fail to check grade inflation but it actually encourages it.

Such perverse incentives have been increased through a more recent HEA requirement where Institutes are obliged to enter into performance compacts. Such compacts may include specific targets for student progression from first into second year which if not achieved may result in financial penalties. A case in point is Galway Mayo Institute of Technology (GMIT). At the time of writing (April 2016) it faces a threat from the HEA that it may withhold €475,000 in

funding as a consequence of the Institute's failure to reach performance targets agreed in a compact (O'Brien, 2016). One of the targets agreed was that it would increase its rate of student progression from first to second year from 66% to 70% (HEA, 2014). It is apparent that this is one of the compact targets which it has failed to reach (O'Brien, 2016). The existence of such targets on which so much funding is staked is a very powerful incentive to degrade academic standards which is then concealed through grade inflation.

While the IOT sector continues to be funded on a 'headage' basis and to be subject to such progression targets, it would be altogether fanciful to expect it to self-regulate in the direction of standards maintenance, when to do so would mean either not seeking to recruit academically unsuited students or ensuring that they fail and do not progress when they inevitably are unable to learn the minimum that in former days was regarded as acceptable. Either way, the Institutes are financially punished for doing the right thing and they can hardly be expected to engage with any enthusiasm in a process which will leave them even more cash strapped than they are. This leads to the inevitable conclusion that the 'headage' basis of funding must be discontinued, or else the process of examining and standards setting must be taken entirely out of the hands of the sector (after the fashion of the second level system). Failing either of those two, academic standards in the Institute of Technology sector will continue to decline as grades continue their upward march.

Already untold damage has been wrought by grade inflation on the quality of education in our Institutes of Technology and in our Universities. While the rate of First and Upper Seconds in the Universities has levelled off, it should be recognised that years of grade inflation has diminished the quality of what a University degree in Ireland stands for and the Universities should focus on actively working to reverse the decline in standards. Meanwhile, it is alarming that in the Institutes of Technology grade inflation not only continues apace but has been accelerating in more recent years. As evident in the OECD numeracy and literacy skills analysis of graduates discussed above, third level qualifications are being awarded in large numbers to individuals whose educational standards fall far short of what should be the minimum required. Based on the very contrasting CAO points' profiles of entrants to the two higher educational sectors, it would seem inevitable that the bulk of those extremely sub-standard graduates emanate from the Institutes of Technology.

As the OECD studies illustrate, international analysis of our graduates do not differentiate between the two sectors. If Irish graduates are then to retain their standing internationally, the Institutes of Technology must be prevented from continuing to undermine their reputation. A properly funded and resourced agency of suitable standing (preferably from overseas) should be entrusted with

the task of investigating and addressing the declining academic standards in the Institute of Technology sector in Ireland. All plans for extending university status within the sector should be scrapped and a root and branch analysis should be conducted to establish how the Institutes of Technology should better serve the genuine post-secondary educational needs of school leavers and of adults who are not suited to or do not seek a University degree.

References

Adelman, C. (2006) The Toolbox Revisited: Paths to Degree Completion from High School through College, Washington, U.S. Department of Education, February 2006. Available at**:**
http://www.avid.org/dl/res_research/research_thetoolboxrevisited.pdf
Accessed 29 Dec 2015

Blaney, C., & Mulkeen, S. (2008). Student retention in a modular world: A study of student retention UCD entrants 1999-2007. University College Dublin (UCD). Available at**:** http://www.ucd.ie/t4cms/retention2008.pdf.
Accessed 10 Feb 2016

Bozick, R. and DeLuca, S. (2005) Better Late than Never? Delayed Enrollment in the High School to College Transition, Social Forces, Vol. 84, No. 1,Sept, pp. 531-554, available at http://www.professorreed.com/Deluca_-_traded_out_article_.pdf Accessed 29 Dec 2015

CAO Website (2016) Leaving Cert Points Statistics. Available at:
http://www.cao.ie/index.php?page=points&bb=mediastats Accessed 4 Jan 2016

Central Statistics Office (2013) PIAAC 2012 Survey Results from Ireland from the OECD's Programme for the International Assessment of Adult Competencies, Dublin: Stationary Office. Available at:
http://www.cso.ie/en/media/csoie/releasespublications/documents/education/2012/piaac2012.pdf
Accessed 27 February 2006.

Carroll, D and Patterson V. (2011) A profile of undergraduate mature new entrants 2010, Dublin, HEA. Available at:
http://www.hea.ie/en/statistics/statistics-section-publications Accessed 10 Feb 2016

Clarke, L. (2014) 21 universities that are making it easier to get top-class degrees. . . including Oxford, Mail on Line, April 17
http://www.dailymail.co.uk/news/article-2607340/21-universities-making-easier-class-degrees-Oxford-Exeter-names.html
Accessed 27 February 2016

Finucane, P., Flannery, D., McGrath, D. and Saunders, J. (2013) Demographic attributes and knowledge acquisition among graduate-entry medical students, Medical Teacher.,Feb, 35, 2, p134-138.

Fleming, T. and Murphy, M. (1997) College Knowledge: Power, Policy and the Mature Student Experience at University, Maynooth Adult and Community Education Occasional Series., NUI Maynooth. Available at: http://eprints.maynoothuniversity.ie/982/1/College_Knowledge.pdf Accessed 29 Dec 2015

Grove, J. (2015) Half of universities have 'made changes to degree algorithms, Times Higher Education, June 11. Available at: https://www.timeshighereducation.com/news/half-universities-have-made-changes-degree-algorithms
Accessed 27 February 2016

Guilfoyle (2011) New Metrics for Detecting Changes in Educational Standards, Paper 9, Network for Irish Educational Standards, Tralee. Available at http://www.stopgradeinflation.ie/Educational_Standards.pdf Accessed 3 January 2016

HEA (2014) Mission Based Performance Compact Between Galway-Mayo Institute of Technology (GMIT) and the Higher Education Authority.

Available at: http://www.hea.ie/sites/default/files/gmit_1_final_compact_2014-2016.pdf

HEA (2016a) HEA Website, Undergraduate Enrolments Full-time Honours Degrees and Undergraduate Enrolments, Part –time Honours Degrees, Available at: http://www.hea.ie/en/statistics/2012-13 Accessed 04 Jan 2016

HEA (2016b) HEA Website, Full-time enrolments by domiciliary, Undergraduate. Available at: http://www.hea.ie/en/statistics/2012-13 Accessed 04 Jan 2016 Accessed 4 Jan 2016

HEA(2016c) Undergraduate Graduates of HEA Institutions. Available at: http://www.hea.ie/en/statistics/undergraduate-graduates

HEA (2016d) HEA Website, Full-time enrolments by gender institution and field of study, Degree enrolments, IOT 07/08 and Part-time enrolments by gender institution and field of study, Degree enrolments, IOT 07/08. Available at: http://www.hea.ie/en/statistics/undergraduate-enrolments Accessed 5 Jan 2016

Hoskins, S. L., Newstead, S. E., & Dennis, I. (1997) Degree performance as a function of age, sex, prior qualifications and discipline studied. Assessment and Evaluation in Higher Education, 22, 317–328

Hu, S. (2005) Beyond Grade Inflation: Grading Problems in Higher Education, ASHE Higher Education Report, Vol. 30, 6, San Francisco, Jossey-Bass.

Irish Times, 2015, August 27, 2nd Round offers

Jacobs, K.A. & King, R.B. (2002) Age and College Completion: A Life History Analysis of Women Aged 15-44, Sociology of Education, 75, 3, 211-230.

Kuczera,M., Field, S. & Windisch, H.C. (2016) Building Skills for All: A Review of England, OECD Skills Studies. Available at: http://www.oecd.org/unitedkingdom/building-skills-for-all-review-of-england.pdf Accessed 27 February 2016.

Lynch, K. (1996) A Profile of Mature Students in Higher Education and An Analysis of Equality Issues, paper presented to Mature Students in Higher Education. A conference organised by the Higher Education Equality Unit, at Athlone Regional Technical College , March 1996. Available at: **http://www.ucc.ie/publications/heeu/Mature/mature_8.htm** Accessed 10 Feb 2016.

Massoia, A. (2015) The New Normal: The Problem of Grade Inflation in American Schools, Huffington Post, Jan 12. Available at http://www.huffingtonpost.com/angelina-massoia/the-new-normal-the-proble_b_6146236.html Accessed 27 February 2016

McManus, I.C., Dewberry, C. , Nicholson, S. and Dowell, J.S. (2013), The UKCAT-12 study: educational attainment, aptitude test performance, demographic and socio-economic contextual factors as predictors of first year outcome in a cross-sectional collaborative study of 12 UK medical schools, BMC Medicine, 2013, 11:244 Available at: http://www.biomedcentral.com/1741-7015/11/244 Accessed 29 Dec 2015

Mooney, O., Patterson, V., O' Connor, M. and Chantler, A. (2010) A Study of Progression in Irish Higher Education, Higher Education Authority, Dublin. Available at: http://www.hea.ie/sites/default/files/study_of_progression_in_irish_higher_education_2010.pdf Accessed 9 April 2016

O'Brien, C. (2016) Galway-Mayo IT says it is improving performance, Irish Times, March 16, Dublin. Available at: http://www.irishtimes.com/news/education/galway-mayo-it-says-it-is-improving-performance-1.2574655 Accessed 9 April 2016

OECD (2013) OECD Skills Outlook 2013: First Results from the Survey of Adult Skills, OECD Publishing. Available at: http://dx.doi.org/10.1787/9789264204256-en Accessed 27 February 2016

O'Grady M. and Guilfoyle B.(2007) Evidence of grade inflation (1994 – 2004) in the institute of technology sector in Ireland, Paper 1, Network for Irish Educational Standards. Available from: http//www.stopgradeinflation.ie Accessed 29 Dec 2015.

O'Grady M. and Quinn S. (2007) The causes of grade inflation: an exploration of social and institutional pressures and policy choices, Paper 4, Network for Irish Educational Standards. Available from: http//www.stopgradeinflation.ie Accessed 13 Feb. 2016

O'Grady, M. (2009) Grade Inflation in the Leaving Certificate Examination 1992- 2006, Paper 7, Network for Irish Educational Standards. Available at: www.stopgradeinflation.ie (Accessed, 12 June, 2012).

O'Grady M. (2011) Grade inflation 2005-2008 in the institute of technology sector: declining standards, Paper 8, Network for Irish Educational Standards. Available from: http//www.stopgradeinflation.ie

O'Grady M. (2013) Updated Analysis of Grade Inflation in the University Sector in Ireland (Including 2005-2009 data), Paper 10, Network for Irish Educational Standards. Available from: http//www.stopgradeinflation.ie

Osborne, M & Leopold, J. (1997), Does access work? The relative performance of access students at a Scottish university., Higher Education. Mar, Vol. 33 Issue 2, p155-176.

Patterson, V. and Harvey, V. (2013) An Analysis of CAO 1st Preference Applications 2013, Higher Education Authority, Dublin. Available at: http://www.hea.ie/sites/default/files/an_analysis_of_cao_1st_preference_applications_2013v_1.pdf Accessed 4 Jan 2016

Patterson, V. and Prendeville, N. (2014) A Study of Progression in Irish Higher Education Institutions, 2010/11 to 2011/12, Higher Education Authority, Dublin. Available at: **http://www.hea.ie/sites/default/files/a_study_of_progression_in_irish_higher_education_institutions_2010-11-2011-12_0.pdf** Accessed 10 Feb 2016

Rojstaczer, S. (2009) Grade Inflation at American Colleges and Universities, GradeInflation.com. Available at http://www.gradeinflation.com/ Accessed 27 February 2016

Teachers Union of Ireland (2016) Lecturers strike over funding and educational crisis - TUI calls on Department to engage meaningfully on key issues Available from : http://www.tui.ie/news-events/lecturers-strike-over-funding-and-educational-crisis-tui-calls-on-department-to-engage-meaningfully-on-key-issues.8047.html Accessed 7 February 2016

Woodfield, R. (2011) Age and first destination employment from UK universities: are mature students disadvantaged? Studies in Higher Education. Jun, Vol. 36 Issue 4, p409-425.

Woodley, A. (1984). The older the better? A study of mature students' performance in British universities. Research in Education, 35,35-50.